Organizational Influences on the Fidelity of Implementation of an Evidence-Based Practice in Community-Based Mental Health Organizations

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Statement of the Research Problem

The U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) indicates mental and substance abuse conditions are among the most common health disorders in the United States, with nearly 50 percent of the populace affected with one disorder at some time during their lifetime (SAMHSA, 2006). To help address this national public mental health concern, research in the implementation of evidence-based practice (EBP) has emerged as a priority for the National Institute of Mental Health (NIMH). The emphasis is to enhance the fit between effective interventions and the context of delivery in diverse care settings, and to provide a base that advances knowledge of EBP implementation at the individual practice level, in addition to the community and state levels (NIMH, 2006).

Organizational complexities involved with the EBP implementation process attempt to explain the level of success or failure of implementation, as measured by fidelity outcomes. Fidelity refers to the adherence to established program protocols and requirements (Bond, Evans, Salyers, Williams, & Kim, 2000), and failure to implement with fidelity can compromise the intended effectiveness of the original intervention (McHugo et al., 2007). Fundamental to implementation efforts is a *change process* (Ganju, 2006; Rosenheck, 2001). This reflects the behavior change of the practitioners and other key providers of evidence-based practices in organizations ((Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). Poole and Van de Ven (2004) describe effective organizational change largely dependent on changing individual knowledge, attitudes, and behavior. While March (1991) contends that adaptation to change requires

organizations to explore new approaches to replace traditional and out-dated practices, capabilities, and knowledge bases.

Little attention is given to how existing core beliefs, values, engrained routines, and attitudes held by organizational group members may affect the change process (Glisson, 2007; Hemmelgarn, Glisson, & James, 2006; Jaskyte & Dressler, 2005). *Organizational culture* determines how things are done within the organization, and its role and influence on fidelity of EBP implementation can be significant. The implementation of an EBP also involves the knowledge transfer of new and technical information (Corrigan, Steiner, McCracken, Blaser, & Barr, 2001). Adherence to fidelity protocols will require community-based mental health (CBMH) organizations to adapt and redesign their *capacities to absorb* complex knowledge and processes, characteristic to a structured service model such as Integrated Dual Disorders Treatment (IDDT).

Recent studies indicate there are organizations that implement with fidelity while others do not achieve success in spite of the significant investment in resources. This is of concern to stakeholders invested in advancing empirically based mental health interventions in community-based settings. As a secondary data analysis, this multi-state study sought to understand the organizational context in which IDDT implementation occurs. It explored how organizational culture and the change process influence some agencies to implement IDDT with high fidelity while others do not. It also sought to understand the relationship of dimensions of organizational culture and absorptive capacity to fidelity of implementing the IDDT model.

Research Background and Hypotheses

For persons with mental illness and substance abuse, SAMHSA (2003) has endorsed the Integrated Dual Disorders Treatment (IDDT) model as an effective EBP that promotes positive rehabilitation and recovery outcomes. However, knowledge about effective mental health interventions does not translate to routine practice in mental health settings (Lehman, Goldman, Dixon, & Churchill, 2004). To understand this existing gap, NIMH has prioritized research to enhance the fit between effective interventions and the context of delivery in diverse care settings. The result has been a major investment by stakeholders to understand implementation of empirically based mental health interventions at the community and state levels (NIMH, 2006).

The emphasis on EBP implementation over 10 years has led to an increase in research in routine mental health settings (Aarons, 2004; Drake et al., 2001; Rosenheck, Desai, Steinwachs, & Lehman, 2000). Significant findings highlight

implementation as a complex undertaking with multi-faceted components to the process (Fixsen et al., 2005; Ganju, 2006). Organizational factors that influence implementation efforts include readiness to change, leadership and decision making, workforce capacity and training, organizational culture, and information technology support (Ganju, 2006; Luongo, 2007; Schoenwald & Hoagwood, 2001; Simpson 2009).

Perceived as an innovation, the implementation of an evidence-based practice in CBMH organizations entails a change process. The change process refers to actions, reactions, and interactions of stakeholders around proposal of change (Pettigrew, Ferlie, & Mckee, 1992). The implication is that EBP implementation with fidelity requires significant changes in practitioner and services system behavior and structure (Lehman et al., 2004). Agencies with an external focus toward innovation and creativity support change, while agencies with an internal focus that maintains stability and the status quo can impede the change process (Quinn & Kimberly, 1984).

The study's independent variable, *organizational culture*, serves as a guide to understand the behaviors of organizational members and the internal aspects of organizational life. Organizational culture is conceptualized as a pattern of shared basic values and assumptions that the organizational group members (workforce) use to solve problems of external adaptation and internal integration (Schein, 1990). The operational definition is the profile scores obtained from Zammuto and Krakower's (1991) *Organizational Culture* measure, a worksheet with five items to identify the current and dominant organizational culture. It is adapted from Cameron and Quinn's (1999) Organizational Culture Assessment Instrument (OCAI), based on the Competing Values Framework (CVF) theoretical framework (Quinn & Rohrbaugh, 1983).

Four dominant culture types/models emerge from the CVF and serve as the foundation for the OCAI. These are the group culture/human relations model, developmental culture/open systems model, hierarchical culture/internal process model, and rational culture/rational goal model. The OCAI assesses six dimensions of organizational culture, each of which has four alternatives (the culture types). The six dimensions identified are dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success (Cameron & Quinn, 1999).

In addition to the identification of the dominant cultural type, this study explored organizational culture from several other dimensions. These include: (a) workplace affiliation, (b) innovation influence, (c) leadership collaboration (d) IDDT values, (e) IDDT support, and (e) IDDT change readiness.

EBP implementation also involves the transfer of new and technical knowledge that requires organizations to adapt and redesign their capacities. This contributes to the absorptive capacity, and according to the literature, organizations with greater processing capabilities for new external knowledge are more likely to enhance assimilation and utilization of innovations (Cohen & Levinthal, 1990). *Absorptive capacity*, the second independent variable, is conceptualized as an organization's human capital characterized by mastery of a broad knowledge base, competencies, and the ability to process new information. Three indicators operationally defined absorptive capacity, and include: (a) the degree of workforce professionalism, (b) familiarity of the IDDT model, and (c) experience utilizing IDDT. Scores obtained from the IDDT Baseline Internet Survey of practitioners for the NIEBPP study measured these three indicators.

The degree of workforce professionalism was measured by the highest school level attained. Ratings ranged from less than a master's degree (=0), and a master's degree or higher (=1) that included a doctoral or MD degree. Ratings for *familiarity of the IDDT model* ranged from not at all (=1) to extremely (=5). Ratings for the degree of *experience utilizing IDDT* ranged from 3 months or less (=1) to > 20 years (=8).

The dependent variable, *fidelity* of the Integrated Dual Disorders Treatment (IDDT) model, is conceptualized as the adherence to the principles and procedures of 13 dimensions specific to the IDDT model. The following treatment characteristics make up the Fidelity Scale: a) a multidisciplinary team that work in collaboration with one another; b) an integrated substance abuse specialist who works in close collaboration with the treatment team, modeling IDDT skills and training other staff in IDDT; c) stage-wise interventions that support treatment consistent with the client's stage of recovery, that is engagement, motivation, action, and relapse prevention; d) access for IDDT clients to comprehensive dual diagnosis services; e) time-unlimited services; f) outreach; g) motivational interventions that clinicians employ through various strategies to engage IDDT clients; h) substance abuse counseling provided to clients who are in the action stage or relapse prevention stage; i) group dual diagnosis treatment; j) family psycho-education; k) participation in self-help groups such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA);

l) pharmacological treatment provided by prescribers who employ five strategies; and, j) interventions provided by the treatment team to promote health.

An IDDT Fidelity Scale (Dartmouth PRC, 2002) with ratings from 1 to 5, where 1 indicates no adherence and 5 indicates full adherence, operationally defined fidelity. The average of the item ratings yields a total fidelity score. A

total score of 4.0 or greater indicated high fidelity scores, scores between 3.0 and 4.0 indicated moderate fidelity, while scores less than 3.0 indicated low fidelity.

The organization's response to the change process, the underlying organizational culture, and absorptive capacity, can facilitate or hinder opportunities for organizations to implement the EBP with fidelity. The two research questions addressed in this paper include:

Quantitative Question

To what extent do organizational culture and absorptive capacity relate to the fidelity of the implementation of the IDDT model in community-based mental health organizations?

Qualitative Question

How do organizational culture and the change process influence fidelity of the implementation of the IDDT model?

The quantitative question was addressed through the hypothesis: *Community-based mental health organizations with an organizational culture characterized by a developmental/open systems model typology and high levels of absorptive capacity will experience higher fidelity outcomes.*

To address the qualitative question, two assumptions formed the basis of the study:

Assumption 1

Organizational culture influences the level of fidelity to IDDT implementation.

Assumption 2

The change process influences fidelity outcomes.

Methodology

This exploratory study utilized a mixed-methods research design to conduct a secondary analysis of a national study, the National Implementing Evidence-Based Practices Project (NIEBPP), on the implementation of evidence-based practices. This analysis only utilized data from Phase II (2001-2004) of the original study. A "QUAL-quant" design defined the study, and this type of study is conducted "within a single dominant paradigm with a small component of the overall study drawn from an alternative design" (Creswell, 1995, p. 177). This design allowed for the integration of different perspectives to provide knowledge

significant to understanding the change process, organizational culture, and absorptive capacity.

The study focused on 11 CBMH organizations across three states, purposively selected, and involved in implementing the IDDT model. Sites ranged from large urban mental health sites to a very small, predominantly rural site. The quantitative method examined the extent to which standardized measures of organizational culture and absorptive capacity relate to the fidelity of the implementation of IDDT.

Quantitative data (scores from measures of organizational culture, absorptive capacity, and mental health provider characteristics) were analyzed using descriptive statistics. The development of scales from scores obtained from the IDDT Baseline (BL) Internet Survey and the Mental Health Provider Baseline Characteristics (MHPBLC) questionnaires measured other dimensions of organizational culture described earlier. In addition, a correlational analysis determined if a relationship existed between the measures of organizational culture, absorptive capacity, and fidelity outcomes. This data were used to enhance themes derived from the qualitative design.

Based on the quantitative analysis, the scope of the qualitative data analysis highlighted three IDDT sites that experienced high fidelity outcome scores, and three that experienced low fidelity outcome scores. A collective case study research analysis was employed to explore the differences among these six sites. To address the qualitative research question, the qualities and characteristics specific to the concepts of organizational culture and the change process on the level of fidelity to IDDT implementation were defined through a detailed examination of the multiple sources of information. A subset of data collected at five time points in the original study was utilized. Table 1 highlights a description of data sources.

The original study employed several strategies to enhance rigor. Triangulation of sources of data (interviews, observations, field notes), of methods as both qualitative and quantitative were used, and of researchers (implementation monitors and fidelity assessors). Monthly site visits to collect systematic qualitative and quantitative data allowed for persistent observation by the implementation monitors. Peer debriefing on a monthly basis with other members of the NIEBPP research team allowed for the clarification of the Implementation Monitors' interpretations and potential biases that may influence credibility of findings. The meticulous tracking on the process and outcomes of implementation by investigators enhanced a dependability audit, which refers to the clear and precise documentation of all steps of the research process (Lincoln & Guba, 1985).

Results

Five qualitative findings emerged from this study: one major finding relevant to organizational culture and four findings pertinent to the change process. Appendix A highlights the major themes. Findings show that a philosophical orientation toward consumer-based mental health treatment underscored the major finding applicable to organizational culture. Sites that emphasized a strong recovery vision central to consumer-based mental health treatment implemented IDDT with success (high fidelity). This suggested the importance of a strong values-innovation fit for the implementation of an evidence-based practice (Klein & Sorra, 1996). Sites with less success (low fidelity) embraced a more traditional service delivery structure that emphasized a more paternalistic treatment vision.

Relevant to the change process, findings indicated four significant drivers of change: (a) leadership, (b) agency adaptability, (c) processes that facilitate education and training regarding use of the IDDT model language, and (d) supervision as an agency priority. *Leadership* was critical to the change process in that, senior and mid-level leaders were instrumental in preparing the agency for IDDT implementation. Through their actions, senior leadership prioritized the required structural adaptations, and institutionalized change to facilitate fidelity recommendations. Leadership traits, style, and actions were influential to practitioner buy-in of the IDDT model, and consensus building and collaboration with external stakeholders. At sites with low fidelity, a top down bureaucratic style of leadership was dominant, with minimal interest or ability to act on fidelity recommendations. This created a negative organizational culture that was not conducive to effective IDDT implementation. Practitioner lack of buy-in and negative attitudes toward the IDDT model and implementation efforts reflected the influence of leadership on fidelity outcomes.

For several of the CBMH agencies in the study, *maintenance of the status quo* was likely more of a necessity rather than resistance to change. The need for control and stability was influenced by other competing organizational demands that centered on fiscal concerns. *Adaptability* to fidelity recommendations reflected the ability of CBMH agencies to balance agency goals with fidelity outcomes. For agencies that achieved success, IDDT implementation and sustainability were critical to their organizational vision.

Significant to the change process was the ensuing interactions among stakeholders (leaders, trainer/consultants, and practitioners) involved in implementation efforts and the dissemination and transfer of knowledge. This was predicated on the establishment of *agency processes to communicate and facilitate the transfer of technical, complex knowledge characteristic of the IDDT*

model. Investment in training and structured supervision was essential for the transfer of knowledge and the integration of IDDT into routine mental health services.

Interwoven with the dissemination and transfer of knowledge through training and supervision is the *capacity of practitioners to acquire and absorb relevant knowledge, and enhance mastery of skills and competencies*. The IDDT model is a structured service model that involves technical and clinical knowledge relevant to mental illness and substance abuse. Practitioners' capacity to absorb, value, and assimilate this knowledge is dependent on IDDT familiarity and professional experience. Intensive training and regular, structured supervision, either individual or group, reinforces mastery of knowledge and competencies.

Quantitative findings indicate there was no relationship between organizational culture typology and fidelity to implementation. Other dimensions of organizational culture- leadership collaboration and a values-innovation fit with the IDDT model were found to have a strong relationship to fidelity. Absorptive capacity indicated a moderate to strong relationship with fidelity. Table 2 depicts the bivariate relationships among the independent variables of organizational culture and absorptive capacity, and the dependent variable of fidelity.

Limitations

One limitation to this study was the small sample size. Generalizability of findings was limited based on a quantitative analysis of 11 sites. Six of these 11 sites were the focus of the qualitative analysis. The aim of this study was to understand the influence and relationship of these organizational dimensions on fidelity in the context in which implementation occurs. Six sites in a multi-site case study design provided heterogeneity across cases (sites).This, in addition to multiple sources of data and triangulation of methods allowed for *credibility* to the findings. In addition, a thick description of the data lent to the *transferability* (Lincoln & Guba, 1985) of the study's inferences and conclusions to other CBMH organizations and implementation issues.

A second limitation was missing documents from the original study. Of the 126 documents identified for analysis, only 97 were available. Missing site reports presented a gap in findings across various time points across sites. This limited interpretations of findings in sites with missing documents. A third limitation, critical to the inferences made in this study is the absence of another coder to validate the study's findings and interpretations. Eisner (1991) (as cited in Creswell, 2007), refers to the importance of the opinion of others as consensual

validation, which enhances *credibility*. Due to limitations in time and resources, the study did not employ this recommended technique.

Utility for Social Work Practice

Several implications emerge for social work knowledge and practice. This can enhance a more effective implementation process for CBMH organizations to promote client outcomes based in recovery and rehabilitation.

1) Social work's core values and principles align with the underlying philosophical tenets and guiding principles of evidence-based practices (EBPs). The contextual foundation for empirically-based psychosocial mental health interventions focus on the best possible treatment option for the client, with the ultimate goal to enhance optimal functioning through recovery and rehabilitation (Meuser, Drake, & Bond, 1997). As EBP implementation research traverses diverse settings in which mental health practitioners are prominent, it is important for administrators and other stakeholders in human services agencies to reinforce the value-base of the EBP. Future studies can explore the translation of underlying recovery values and client-centered outcomes of evidence-based practice into specific dimensions of assessment.

2) Practitioner capacity to absorb complex and technical information and processes characteristic to EBPs is critical. While the interdisciplinary approach to services is common in human services agencies, it is imperative that as human service agencies consider an EBP implementation initiative, significant investment is given to staff identification and selection for participation. Varying ideological and professional beliefs, in addition to education and experience, may influence individual level absorptive capacity. Supervisors and managers have a responsibility to assess practitioner mastery of knowledge, skills, and competencies. More attention is needed in staff selection, ideological fit, and relevance to evidence-based practice (Fixsen et al., 2005).

3) As a complex undertaking, EBP implementation requires significant investment of financial, human, and technical/administrative resources. It becomes crucial that agencies assess their capacity to implement an EBP with effectiveness (fidelity) and to ensure its sustainability. Further studies in organizational quality improvement efforts and the effects on implementation effectiveness and client outcomes can shed light on organizational change efforts instrumental to achieving desired results and outcomes (Bond et al., 2009).

4) A growing number of social work professionals are found within the mental health service delivery system (Occupational Outlook Handbook 2006-2007 (2007). This factor is significant as their involvement at the multi-tiered

levels significant to implementation research in mental health services enables active participation in community-based research collaborations and partnerships. Social work is positioned to contribute to NIMH's (2006) translational science research agenda by closing the gap between research and practice in mental health (Brekke, Ell, & Palinkas, 2007).

Table 1. Documents Used in Data Analysis

Type	Description	Reported By	Time Point(s) Reported
Fidelity Report	Summary of the General Organizational Index and the IDDT Fidelity Scale	Consultant/Trainer	BL, 6M, 12M, 18M, 24M
Implementation Monitor Summary	Description of program's overall implementation efforts	Implementation Monitor	BL, 6M, 12M, 18M, 24M
Program Leader Interview	Transcript of interview conducted with the Program Leader of the IDDT implementation project	Program Leader	BL, 6M, 12M, 18M, 24M
Trainer Interview	Transcript of interview conducted with consultant/trainer for the IDDT implementation project	Consultant/Trainer	BL, 6M, 12M, 18M, 24M
Final Implementation Report for Each Site	A final report that describes the MH agency; preparation phase; intervention; implementation outcomes (fidelity & penetration); implementation & sustaining process; and the sustaining phase	Implementation Monitor	24M

Note. BL = baseline; M = month

Table 2. Organizational Culture and Absorptive Capacity Variables by Fidelity

Organizational Culture	IDDT Fidelity (24 months)
Group	.07
Developmental	.10
Hierarchical	-.04
Relational	-.10
Work Place Affiliation	-.13
Innovation Influence	.31
Leadership Collaboration	.79**
IDDT Values	.72*
IDDT Support	.072
IDDT Change Readiness	.08
Absorptive Capacity	
Familiarity	.60**
Experience	.43
Professionalism	.75**

** $p < .01$ level * $p < .05$ level

Appendix A

Final Coding Schema

Themes clustered around organizational culture:

1. Philosophical orientation toward consumer-based mental health treatment
    - Agency/EBP philosophical congruence
    - Norms, values, and beliefs
    - Concept of team culture

Themes clustered around the change process

2. Role of leadership
    - Influence of stakeholders

3. Differing preferences for adaptability (flexibility) versus maintaining the status quo (stability)
    - Consensus and buy-in
    - Changes in agency practices and practitioner behaviors
    - Role delineation
    - Management of existing organizational demands

4. Learning to use the IDDT model language

    - Training investment
    - Mastery of knowledge, skills, competencies
    - High level of clinical sophistication

5. Prioritization of supervision

    - Enhanced awareness and integration of model

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